

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-54101-1

Client Project/Site: BP Whiting - Cooling Water BWON

For:

BP Products North America Inc

2815 Indianapolis Blvd.

MC 122

Whiting, Indiana 46394

Attn: Mr. Tim Chen



Authorized for release by:

1/25/2013 1:47:42 PM

Eric Lang

Project Manager II

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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Job ID: 500-54101-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-54101-1

Comments

No additional comments.

Receipt

The sample was received on 1/25/2013 11:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.4° C.

Except:

Received sample with no COC, filled one out in log in.

GC/MS VOA

No analytical or quality issues were noted.

Sample Summary

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-54101-1	6SEP EFF	Water	01/24/13 18:00	01/25/13 11:00

Client Sample Results

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Client Sample ID: 6SEP EFF

Lab Sample ID: 500-54101-1

Date Collected: 01/24/13 18:00

Matrix: Water

Date Received: 01/25/13 11:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.9		0.50	0.074	ug/L			01/25/13 12:44	1
Ethylbenzene	5.6		0.50	0.13	ug/L			01/25/13 12:44	1
Toluene	34		0.50	0.11	ug/L			01/25/13 12:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 125					01/25/13 12:44	1
Toluene-d8 (Surr)	95		75 - 120					01/25/13 12:44	1
4-Bromofluorobenzene (Surr)	96		75 - 120					01/25/13 12:44	1
Dibromofluoromethane	85		75 - 120					01/25/13 12:44	1

QC Association Summary

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

GC/MS VOA

Analysis Batch: 175922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-54101-1	6SEP EFF	Total/NA	Water	8260B	
LCS 500-175922/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-175922/6	Method Blank	Total/NA	Water	8260B	

Surrogate Summary

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE	TOL	BFB	DBFM
		(75-125)	(75-120)	(75-120)	(75-120)
500-54101-1	6SEP EFF	92	95	96	85
LCS 500-175922/4	Lab Control Sample	89	91	92	88
MB 500-175922/6	Method Blank	94	96	93	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

QC Sample Results

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-175922/6

Matrix: Water

Analysis Batch: 175922

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.50		0.50	0.074	ug/L			01/25/13 10:50	1
Ethylbenzene	<0.50		0.50	0.13	ug/L			01/25/13 10:50	1
Toluene	<0.50		0.50	0.11	ug/L			01/25/13 10:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 125		01/25/13 10:50	1
Toluene-d8 (Surr)	96		75 - 120		01/25/13 10:50	1
4-Bromofluorobenzene (Surr)	93		75 - 120		01/25/13 10:50	1
Dibromofluoromethane	90		75 - 120		01/25/13 10:50	1

Lab Sample ID: LCS 500-175922/4

Matrix: Water

Analysis Batch: 175922

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	46.4		ug/L		93	70 - 120
Ethylbenzene	50.0	48.3		ug/L		97	75 - 120
Toluene	50.0	47.9		ug/L		96	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		75 - 125
Toluene-d8 (Surr)	91		75 - 120
4-Bromofluorobenzene (Surr)	92		75 - 120
Dibromofluoromethane	88		75 - 120

Definitions/Glossary

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: BP Products North America Inc
Project/Site: BP Whiting - Cooling Water BWON

TestAmerica Job ID: 500-54101-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-13
California	NELAP	9	01132CA	04-30-13
Georgia	State Program	4	N/A	04-30-13
Georgia	State Program	4	939	04-30-13
Hawaii	State Program	9	N/A	04-30-13
Illinois	NELAP	5	100201	04-30-13
Indiana	State Program	5	C-IL-02	04-30-13
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-11-13
Louisiana	NELAP	6	30720	06-30-13
Massachusetts	State Program	1	M-IL035	06-30-13
Mississippi	State Program	4	N/A	04-30-13
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-13
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	04-30-13
Texas	NELAP	6	T104704252-09-TX	02-28-13
USDA	Federal		P330-12-00038	02-06-15
Virginia	NELAP	3	460142	06-14-13
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	04-30-13

Historical Internal Chain of Custody

Login	Smp	Customer Sample ID	Matrix	Container ID	Lab Sample ID	Container Type	Location	Custody User	I/O ICOC ID	ICOC Date
500-54101	1	6SEP EFF	Water	500-2065890	500-54101-A-1	Voa Vial 40ml - Hydrochloric Acid				
500-54101	1	6SEP EFF	Water	500-2065891	500-54101-B-1	Voa Vial 40ml - Hydrochloric Acid				
500-54101	1	6SEP EFF	Water	500-2065892	500-54101-C-1	Voa Vial 40ml - Hydrochloric Acid				

Login Sample Receipt Checklist

Client: BP Products North America Inc

Job Number: 500-54101-1

Login Number: 54101

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	BP LaMP temp checks per 3.1.3; Samples rec'd = 6C; Temp maintained during login.
Cooler Temperature is recorded.	True	5.4
COC is present.	False	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	